Quadratic Functions

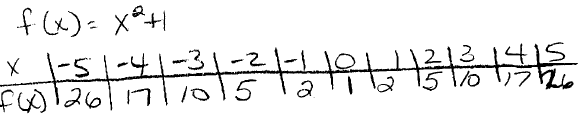
Unit 14

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| --- | --- | --- | --- |
| Day | Section | Topic | Assignment |
| 1 | 4.1 | Quadratic Functions | **Wksht** 1-16 |
| 2 | 4.1 | Role of a and c | Wksht both sides |
| 3 | 4.1 | Role of b | **Wksht** 1-8 |
| 4 | 4.1 | Vertex Form | **Wksht** 1-11 |
| 5 | 4.1 | Applications - Max. & Min. | Wksht 1-7 |
| 6 |  | More Max and Min | Wksht 1-6 |
| 7 |  | Review | Review Worksheet 1-5 **Quadratic Functions – Parabolas Review** |
| 8 |  | Test Unit 14 |  |

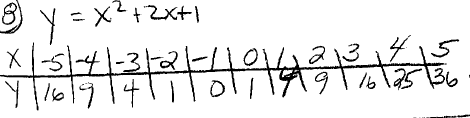
Day 1: Quadratic Function Worksheet 1-16

1) linear 2) quadratic 3) quadratic

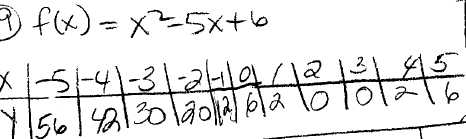
4) quadratic 5) linear 6) quadratic

7) 

8)



9)



10) b = 0 11) c = -5 12) a = 5 13) b = -4

14) 100,000 square feet 15) 516,600 square miles

16) 8073 square miles

U14 Day 2

ROLE OF A:

1) UP 2) UP 3) DOWN

4) DOWN 5) UP 6) DOWN

7)  8) 9) 10) 

e) 

c) 

f) 

d) 

a) 

b) 

For values a < 0,  a will have a maximum

value.

ROLE OF C:

1)  2) 

3)  4) 

5) 

6) 

7) a. up 6 b. (0, 6) 8) a. down 1 b. (0, -1)

9) same width, same axis of symmetry

10) One opens upward, one opens downward. One has vertex of (0, 0). The other has vertex of (0, 3)

Day 3 – see desmos.com file

Day 4 – see desmos.com file

Day 5 – Max and min problems 1-7

1) 7.5m x 15m

2) It will take 3.1 seconds for the ball to reach its max height of 45.9m

3) The manufacturer should produce 20 lighting fixtures per day to produce the minimum cost.

4)  5) 

6) 6cm x 3cm 7) 16 ft

Day 6

1) a. 1.5 sec b. 196 ft c. 5 sec

2) a. $350 b. $56,000 c. $150 and $550

3) a. 1.5 intensity b. 202.5

4) 

Monthly charge = $12, income = $72,000

5) 

Monthly rent = $430, income = $18,490

6) 1000 square meters

Day 7 – Review

1) The absolute value of the lead coefficient (a) must be the same.

2) The absolute value of the lead coefficient (a) of the steeper graph will be greater than the less steep graph.

3) a. (0, 3) b. x = 1 c. max

d. 5 e. (1, 5)

4) 42.5 x 85 ft; 3,612.5 square feet

5) a.  b. 5

c. 20 d. 200 e. $4000

QUADRATIC FUNTIONS – PARABOLAS REVIEW

See desmos file